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Stone, Clay, Glass, and Concrete Products Industry Indexes

May 2001

No *Stone, Clay, Glass, and Concrete Products Industry Indexes* in June

The U.S. Census Bureau is about to begin publishing its Manufacturers' Shipments, Inventories, and Orders data according to the new North American Industry Classification System (NAICS). The new monthly data will result in significant disruptions to some of the indicators used in the leading and coincident indexes in the *Metal Industry Indicators* and possibly the *Stone, Clay, Glass, and Concrete Products Industry Indexes* as well. This is because the NAICS is replacing the Standard Industrial Classification (SIC), which has been the bedrock of the Census and almost all other Federal and private economic statistics. During June, the USGS will be assessing the effects of the new NAICS data on the leading and coincident indexes and revising them as needed. A combined June/July issue of the USGS *Stone, Clay, Glass, and Concrete Products Industry Indexes* is scheduled for publication on July 27.

The NAICS was developed to classify industry data in old and new industries agreed upon by Canada, Mexico, and the United States. Other Federal agencies that provide data for the *Stone, Clay, Glass, and Concrete Products Industry Indexes* are also expected to revise their statistics within the next 3 years to conform to NAICS. The Federal Reserve Board, for example, will begin producing new industrial production indexes in Spring 2002. (For more information about NAICS, see the website at: http://www.census.gov/epcd/www/naics.html.)

This report analyzes and explains the USGS's monthly leading and coincident indexes for the stone, clay, glass, and concrete products industry (SIC 32). This manufacturing industry processes industrial minerals, minerals that are neither metals nor fuels, into useful products. More than 50 percent of the total value of these products is shipped to the highly cyclical construction industry. The indexes have been computed for each month back to 1948 and are available on the World Wide Web at: http://minerals.usgs.gov/minerals/pubs/imii/scghist.txt

Analysis

The stone, clay, glass, and concrete products leading index increased 0.8% in April to 177.1 from a revised 175.7 in March, and its 6-month smoothed growth rate rose to 4.1% from a revised 2.4% in March. The 6-month smoothed growth rate is a compound annual rate that measures the near-term trend. A growth rate above +1.0% is usually a signal of growth in future industry activity, and a growth below -1.0% usually signals a decline in activity.[1] The leading index growth rate has been positive since January and now is well above the +1.0% threshold that indicates an increase in activity. The leading index, therefore, is signaling that the stone, clay, glass, and concrete products industry could start to experience a pickup in activity over the next few months.

Two of the four leading index components increased in April. The yield spread between the U.S. 10-year Treasury bond rate and the Federal Reserve's federal funds rate contributed 0.8 percentage points to the net increase in the leading index. This indicator moved out of the negative range in April, as the long-term rate became higher than the short-term rate. An increase in the S&P stock price index for building materials companies

[1]The 6-month smoothed growth rate is a compound annual rate based on the ratio of the current month's index to its average level during the preceding 12 months.

contributed 0.2 percentage points to the leading index. In contrast, a slightly shorter average workweek in the stone, clay, glass, and concrete products industry contributed -0.2 percentage points to the leading index. A decline in new U.S. housing permits issued also contributed -0.2 percentage points. (table 2).

Current industry activity, as measured by the coincident index, declined for the third straight month. The index fell 0.6% in April to 146.9 from a revised 147.8 in March, and its growth rate sank to -5.3% from a revised -4.8% in March.

Explanation

The USGS uses the same methodology for the stone, clay, glass, and concrete products indexes that it uses for the metal manufacturing indexes in the *Metal Industry Indicators*. This methodology consists of constructing and tracking, each month, two composite indexes of diverse economic indicators. The composite leading index for stone, clay, glass, and concrete products signals, several months in advance, major changes in current economic activity as measured by a composite coincident index. The construction of the leading and coincident indexes follows well-established procedures for the analysis of cyclical indicators that were developed at the National Bureau of Economic Research, the U.S. Department of Commerce, and the Center for International Business Cycle Research.

Coincident indicators

The indicators selected to represent current activity in the coincident index for the stone, clay, glass, and concrete products industry are industrial production, the value of shipments in 1982 dollars, and total employee hours worked. The composite index of coincident indicators for SIC 32 is itself a leading indicator of the U.S. economy. It leads the U.S. business cycle an average of 3.6 months at both peaks (end of an economic expansion) and troughs (end of an economic downturn), and it leads at 67% of the turning points from 1948 onward.

Leading indicators

Leading indicators represent various economic activities that can point to near-term changes in industry activity. The following four indicators proved to be reliable at signaling major changes in economic activity in the stone, clay, glass, and concrete products industry: 1) average weekly hours worked in the stone, clay, glass, and concrete products industry; 2) an index of new private housing units authorized by building permits in the United States; 3) the Standard & Poor's stock price index for building materials companies; and 4) the yield spread between the 10-year Treasury bond interest rate and the federal funds interest rate. The composite leading index constructed from these indicators turned before the coincident index at every trough and at 88% of the peaks. Although the leading index did not lead the coincident index at every peak, the average leads at troughs and peaks were 7.3 and 8.4 months, respectively, for an overall lead of 7.8 months.

This report was produced at the U.S. Geological Survey by the Minerals Information Team. For more information about these indexes, contact Gail James (703-648-4915), e-mail (gjames@usgs.gov); or Ken Beckman (703-648-4916), e-mail (kbeckman@usgs.gov).

The USGS also produces *Mineral Industry Surveys* (MIS) for virtually all industrial minerals important to the U.S. economy. These include MIS for Cement, Clays, Crushed Stone, Dimension Stone, and Construction Sand and Gravel. Information on how to access these reports is available on the World Wide Web at: http://minerals.usgs.gov/minerals/pubs

Table 1.
The Stone, Clay, Glass, and Concrete Products Industry Indexes and Growth Rates

	Leading Index		Coincident Index	
	(1977 = 100)	Growth Rate	(1977 = 100)	Growth Rate
2000				
May	175.0r	-7.1r	152.6	1.0
June	172.4r	-8.9r	152.1	0.0
July	174.6r	-5.8	154.8	3.0
August	173.3r	-6.2r	153.7	1.2
September	172.0r	-6.7	153.2	0.4
October	169.8r	-8.0r	153.7	0.7
November	170.4r	-6.2r	150.5	-3.2
December	169.3r	-6.2r	146.2	-8.1
2001				
January	174.9	0.7r	149.9	-3.1
February	174.5r	0.9r	148.3r	-4.7r
March	175.7r	2.4r	147.8r	-4.8r
April	177.1	4.1	146.9	-5.3

r: Revised

Note: Growth rates are expressed as compound annual rates based on the ratio of the current month's index to the average index during the preceding 12 months.

Table 2.
The Contribution of Each Stone, Clay, Glass, and Concrete Products Index Component to the Percent Change in the Index from the Previous Month

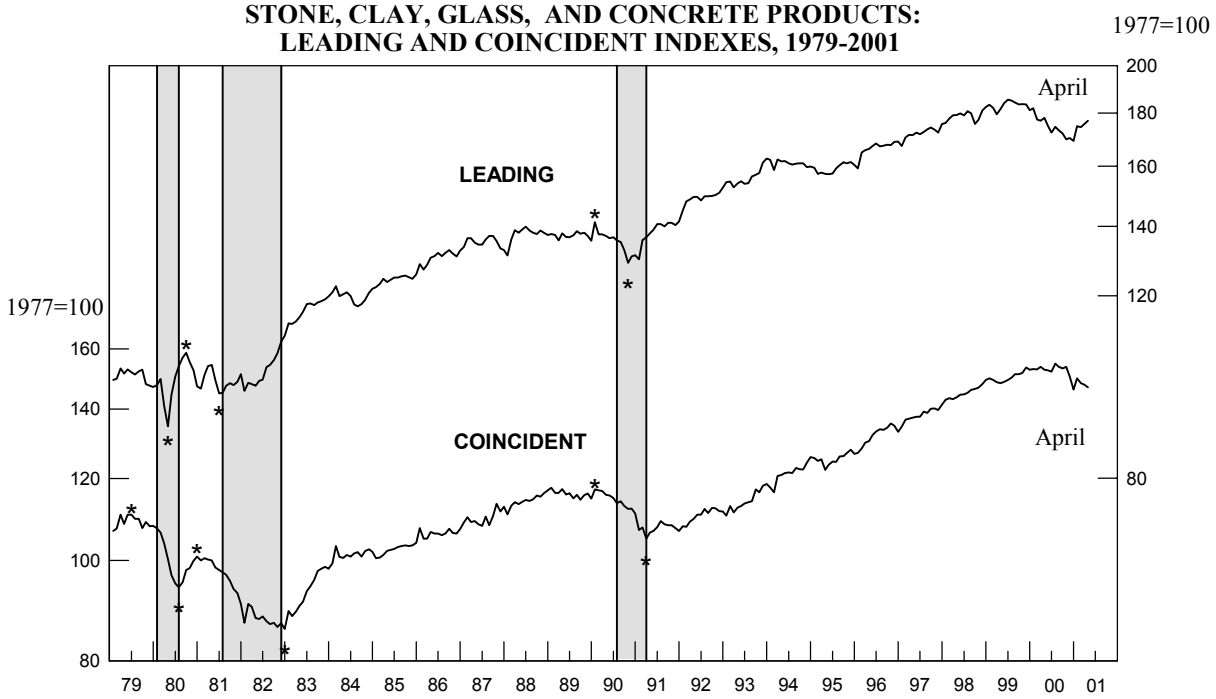
Leading Index	**March**	**April**
1. Average weekly hours, stone, clay, glass, and concrete products (SIC 32)	0.7	-0.2
2. Index of new private housing units authorized by permits	-0.2r	-0.2
3. S&P stock price index, building materials companies	0.0	0.2
4. Spread between the U.S. 10-year Treasury Note and the federal funds rate	0.0	0.8
Trend adjustment	0.1	0.1
Percent change (except for rounding differences)	0.6r	0.7
Coincident Index		
1. Industrial production index, stone, clay, glass, and concrete products (SIC 32)	-0.2r	-0.3
2. Total employee hours, stone, clay, glass, and concrete products (SIC32)	0.1r	-0.5
3. Shipments of stone, clay, glass, and concrete products (SIC 32)	-0.3	NA
Trend adjustment	0.1	0.1
Percent change (except for rounding differences)	-0.3r	-0.7

Sources: Leading: 1, Bureau of Labor Statistics; 2, U.S. Census Bureau and U.S. Geological Survey; 3, Standard & Poor's; 4, Federal Reserve Board, Conference Board, and U.S. Geological Survey. Coincident: 1, Federal Reserve Board; 2, Bureau of Labor Statistics and U.S. Geological Survey; 3, U.S. Census Bureau and U.S. Geological Survey. All series are seasonally adjusted, except 3 of the leading index.

NA: *Not available* ***r:*** *revised*

Chart 1.

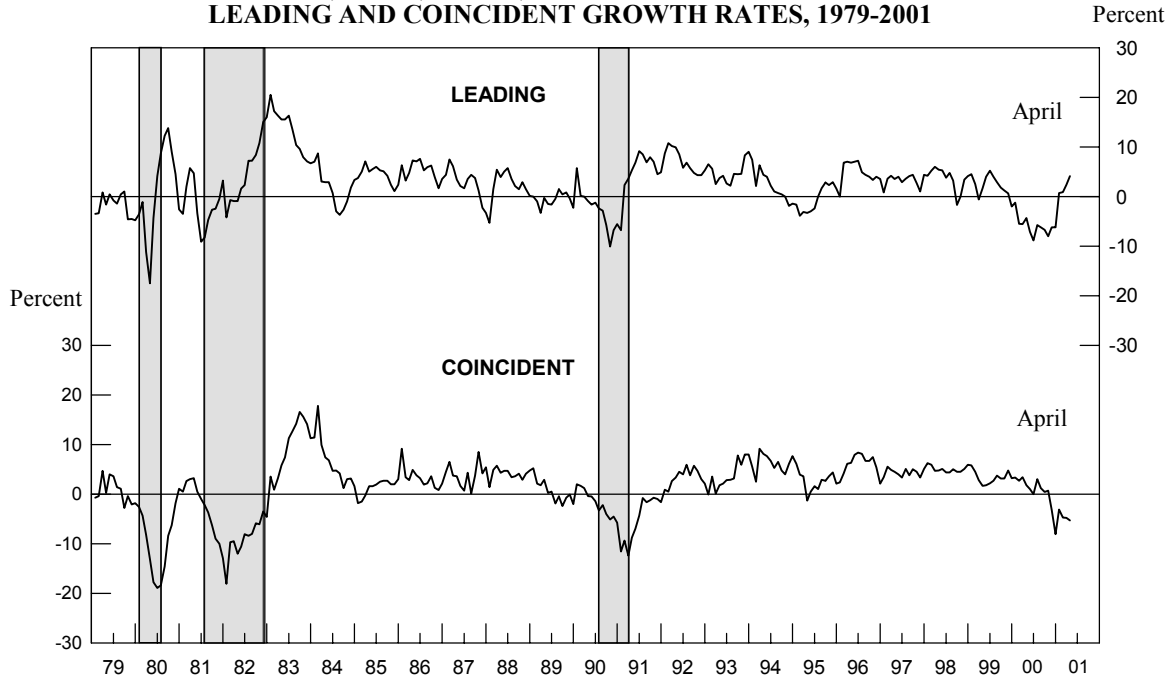
STONE, CLAY, GLASS, AND CONCRETE PRODUCTS: LEADING AND COINCIDENT INDEXES, 1979-2001



Shaded areas are business cycle recessions. Asterisks (*) signify peaks (the end of an expansion) and troughs (the end of a downturn) in the economic activity reflected by the indexes. More than 50% of the value of shipments of stone, clay, glass, and concrete products is used in the construction industry.

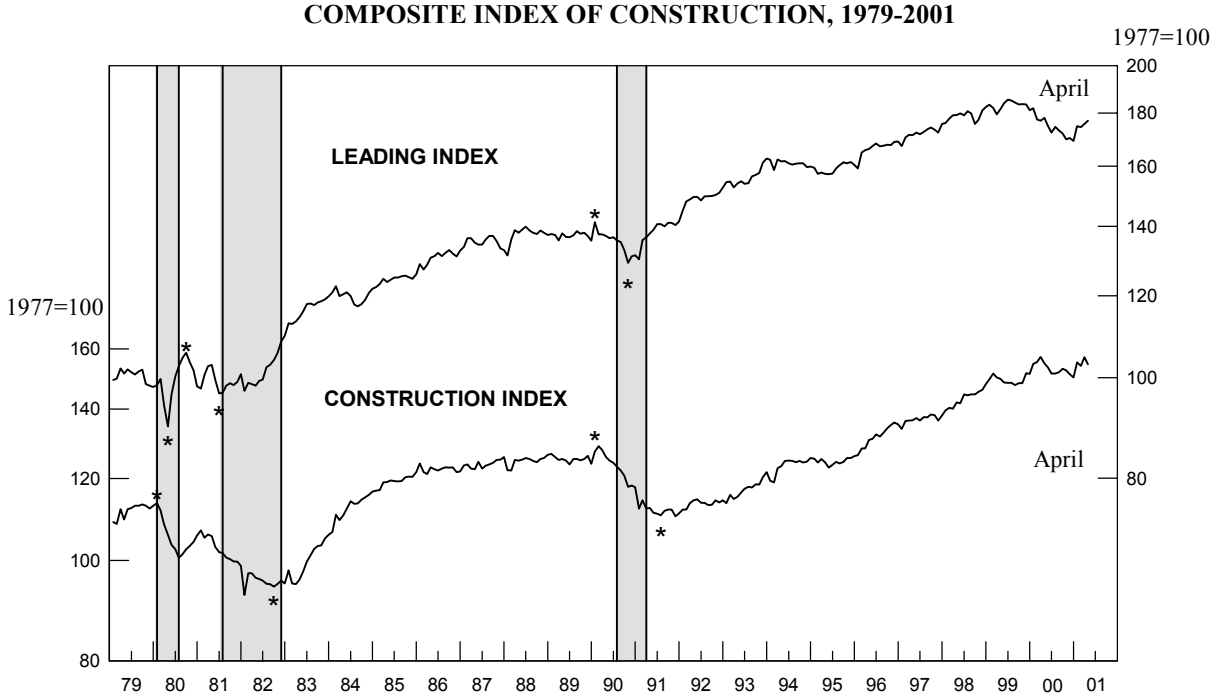
Chart 2.

STONE, CLAY, GLASS, AND CONCRETE PRODUCTS: LEADING AND COINCIDENT GROWTH RATES, 1979-2001



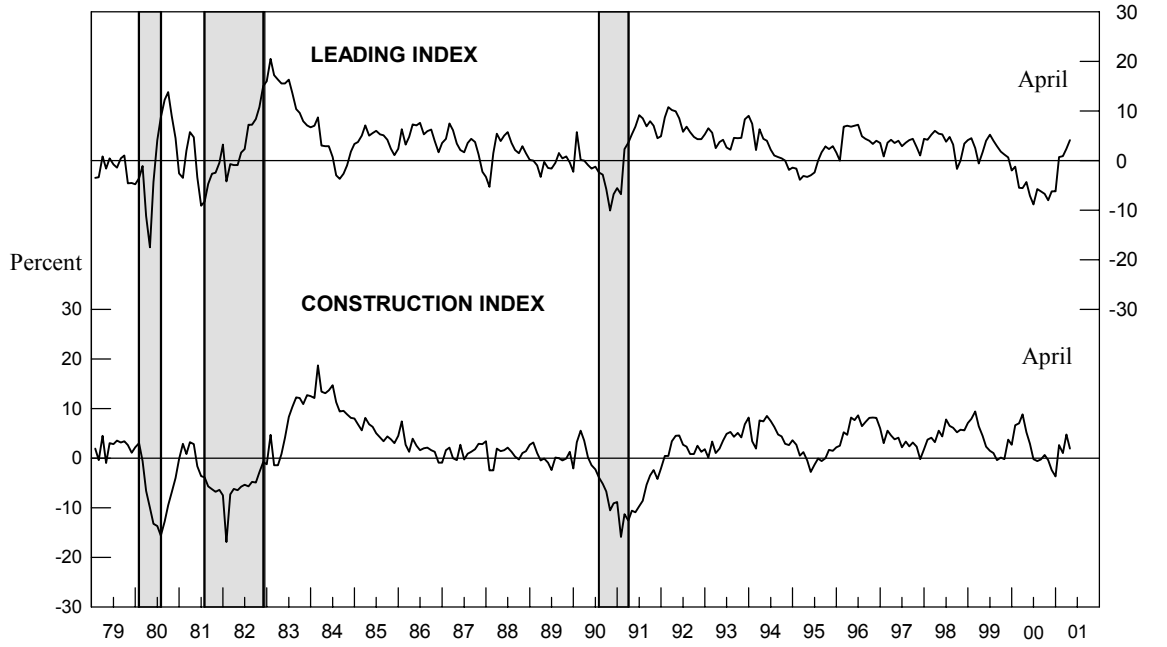
Shaded areas are business cycle recessions. The growth rates are expressed as compound annual rates based on the ratio of the current month's index to its average level during the preceding 12 months.

Chart 3.
STONE, CLAY, GLASS, AND CONCRETE PRODUCTS LEADING INDEX and COMPOSITE INDEX OF CONSTRUCTION, 1979-2001



Shaded areas are business cycle recessions. Asterisks (*) signify peaks (the end of an expansion) and troughs (the end of a downturn) in the economic activity reflected by the indexes. More than 50% of the value of shipments of stone, clay, glass, and concrete products is used in new construction. The composite index of construction combines the value of new construction put in place and total employee hours worked in construction.
Sources: U.S. Geological Survey, Bureau of Labor Statistics, and U.S. Census Bureau.

Chart 4.
GROWTH RATES
STONE, CLAY, GLASS, AND CONCRETE PRODUCTS LEADING INDEX and COMPOSITE INDEX OF CONSTRUCTION, 1979-2001



Shaded areas are business cycle recessions. The growth rates are expressed as compound annual rates based on the ratio of the current month's index to its average level during the preceding 12 months.